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ABSTRACT

This document analyzes data obtained from "Education in the Middle Grades," a national survey of practices and trends using a representative sample of principals in public schools that contain grade 7, to examine the use and effects of practices that many educators believe are especially responsive to the needs of early adolescents. Practices examined include: (1) group advisory periods; (2) interdisciplinary teacher teams; (3) remedial instruction programs; (4) "school transition" activities; and (5) the formal recognition on report cards of student progress or effort regardless of performance level. The results indicate that most responsive practices yield measurable but modest benefits, but they also suggest that to realize the benefits, a school must make sure that the practices are implemented properly. A discussion of problems that might be encountered and of approaches that might be used by schools that contemplate adopting a responsive practices structure for the middle grades concludes the document. Variables used in the regression analysis and seven tables are appended. (19 references) (CLA)

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# Center for Research On Elementary & Middle Schools

Report No. 46

February, 1990

## RESPONSIVE EDUCATION IN THE MIDDLE GRADES: TEACHER TEAMS, ADVISORY GROUPS, REMEDIAL INSTRUCTION, SCHOOL TRANSITION PROGRAMS, AND REPORT CARD ENTRIES

Douglas J. Mac Iver and Joyce L. Epstein

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**Responsive Education in the Middle Grades: Teacher Teams, Advisory Groups, Remedial Instruction, School Transition Programs, and Report Card Entries**

Grant No. OERI-G-90006

Douglas J. Mac Iver

Joyce L. Epstein

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Center for Research on Elementary and Middle Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218

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## The Center

The mission of the Center for Research on Elementary and Middle Schools is to produce useful knowledge about how elementary and middle schools can foster growth in students' learning and development, to develop and evaluate practical methods for improving the effectiveness of elementary and middle schools based on existing and new research findings, and to develop and evaluate specific strategies to help schools implement effective research-based school and classroom practices.

The Center conducts its research in three program areas: (1) Elementary Schools; (2) Middle Schools, and (3) School Improvement.

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This program works from a strong existing research base to develop, evaluate, and disseminate effective elementary school and classroom practices; synthesizes current knowledge; and analyzes survey and descriptive data to expand the knowledge base in effective elementary education.

### *The Middle School Program*

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### *School Improvement Program*

This program focuses on improving the organizational performance of schools in adopting and adapting innovations and developing school capacity for change.

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This report, prepared by the Middle Schools Program, analyzes national survey data on middle grades schools to determine the use and effects of organizational and instructional practices that are believed to be responsive to the needs of early adolescents.



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Abstract

In this paper, we analyze data obtained from "Education in the Middle Grades," a national survey of practices and trends using a representative sample of principals in public schools that contain grade 7, to examine the use and effects of practices that are believed by many educators to be especially responsive to the needs of early adolescents. These responsive practices include group advisory periods, interdisciplinary teacher teams, remedial instruction programs, "school transition" activities, and the formal recognition on report cards of students for progress or effort regardless of their performance level. Multiple regression analyses suggest that grade organization is not a consistent determinant of responsive middle grades practices. Overall, 7-9 junior high and 7-12 combination schools have fewer responsive practices than other middle grade organizations.

Most responsive practices yield measurable but modest benefits. Different practices affect different indicators of school and student success. Principals report a stronger school program overall when they invest heavily in interdisciplinary teams of teachers to create supportive conditions for teachers and students. Principals expect fewer students to drop out before high school graduation when the school uses supportive advisory group activities, responsive remediation programs, or responsive report card grading. Principals report that extensive school transition programs reduce the number of students who need to repeat the grade immediately following the transition. The implications of the results for the improvement of education in the middle grades are discussed.



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## Introduction

Leading educators in the middle school movement have recommended that middle grades schools adopt special structures and services that are believed to be especially responsive to the needs of early adolescents (e.g., Alexander, 1977; Alexander & George, 1981; California State Department of Education, 1987; Eichorn, 1966; Lipsitz, 1984; Lounsbury, 1984; Maryland State Department of Education, in press; Toepfer, 1987). Prominent among the recommended practices are the use of group advisory periods; the establishment of interdisciplinary teacher teams; the provision of special remedial activities for students who fall behind or learn more slowly than other students; the formal recognition of students on their report cards for consistent progress or sustained effort regardless of their performance level, and the use of "transition" or "articulation" activities with students, parents, and school staff to ease students' transitions from one level of schooling to the next (from the elementary to the middle grades, and from the middle to the high school grades).

This study examines the structure, use, and anticipated effects of these responsive practices. It considers differences in the use of these practices in schools with different grade spans, in different locations, and with different types of student populations. Finally, it examines how schools' uses of these practices are related to principals' evaluations of their middle grades program, to principals' predictions concerning the percent of their current seventh-graders who will not graduate from high school, and to other school-level outcomes such as retention rate.

### *The Sample*

The 2,400 schools in the study are a probability sample of public schools in the United States having 7th grade students. From the approximately 25,000 public schools that serve

regular 7th-grade students, 2,000 schools were sampled with probabilities proportional to each school's enrollment per grade level. In addition, two sub-universes of schools were over-sampled: schools serving both elementary and middle grades in metropolitan areas and schools in districts with substantial rates of poverty (i.e., Orshansky index at or above 25). Approximately 200 of each type were added to the sample, making the total sample size 2,400.

In the spring of 1988, the Johns Hopkins Center for Research on Elementary and Middle Schools (CREMS) sent survey forms by mail to the principals of the 2,400 schools in the sample. A total of 1753 (73%) of the principals provided information on their school for this study, including 1344 who returned surveys by mail, and 409 who completed shorter telephone interviews. The telephone interviews were conducted with a random subsample of all-nonrespondents to the mail survey. Weighting the telephone interview responses to account for the essentially similar non-responding schools that were not followed up by telephone brings the weighted response rate to 93% for the items that were common to the mail and telephone surveys.

For data analysis purposes, each school was first assigned a "weight" that was the inverse of its probability of selection. This weighting returns the sample to an equal probability (representative) sample of schools. Then, because we wanted to describe the experience of the typical middle grades student, each school was upweighted by the school's enrollment per grade level, scaled so that the weighted total number of schools is equal to the unweighted raw number of schools (1,344 for items asked by mail only and 1,753 for items asked over the phone and by mail).

The measures used in the analyses reported in this paper are summarized in the Appendix. The variables included measures of a) the responsive practices, programs, and policies used by the school in the middle grades, b) characteristics of the school, c) characteristics of the school's students, and d) outcomes obtained by the school and its students.

## Group Advisory Periods

In their attempt to offer early adolescents high-quality instruction from subject matter experts, many schools establish departmentalized programs in which students receive instruction from a different teacher for each academic subject. However, when students change teachers every period, they may feel that there is no one teacher who really knows them, cares about them, or is available to help them with problems. To provide each student with a teacher who knows and cares about the student and is available as a mentor or advisor, many schools have established homeroom or group advisory periods. About two thirds of the schools in the U.S. that include grade 7 have one homeroom or group advisory period, and 9% have two such periods (Epstein & Mac Iver, 1989).

Although advisory or homeroom periods are common, many of the activities that occur during these periods are mechanical tasks (taking attendance, distributing notices, making announcements, orienting students to rules and programs) rather than social and academic support activities that use teachers' talents as advisors and that help students feel that someone is looking out for their interests and needs.

To explore the antecedents and consequences of using *supportive* activities during group advisory periods, we created a response variable indicating the mean frequency of occurrence of nine social or emotional support activities during a homeroom or group advisory period (see Appendix, Variable I). These activities included meeting with individual students about problems, giving career information and guidance, discussing academic problems or issues, and similar activities. Principals indicated how frequently each activity occurred, using a 5-point scale ranging from 1=never to 5=daily. Schools not having a homeroom or group advisory period were assigned a score of 1 on this variable to indicate that support activities never occurred *during a group advisory period* at these schools. The grand mean for this variable was 2.3 ( $SD$ = 1.2); each type of support activity occurred only a few times per year, on the average.



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The first column in Table 1 summarizes a multiple regression model in which the mean frequency of responsive activities during advisory period is predicted based on (a) grade organization of school, (b) region, (c) the urbanicity of the area in which the school is located, (d) the percentage of black students in the school, (e) the % of the school's families whose income is below the poverty line, (f) the % professional or managerial families in the school, and (g) the average ability of the students upon entry to the school (Appendix, Variables VIII - XIV).

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Insert Table 1 about here.

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The standardized regression coefficient of -.12 for junior high schools in the first column of Table 1 indicates that these 7-9 schools use supportive group advisory activities significantly less frequently than do 6-8 middle schools (the schools that served as the control category). Other grade organizations do not significantly differ from 6-8 middle schools in their use of supportive group advisory activities. Further comparisons (not shown in Table 1) indicate that junior high schools use supportive group advisory activities significantly less often than every grade organization except for middle-high combination schools. However, junior high schools (and middle-high combination schools) are more likely than other schools to have at least one professional guidance counselor (Epstein & Mac Iver, 1989), and thus may be less likely than others to perceive a need for a group advisory program. Further, junior high schools (and middle-high combination schools) are more likely than most other schools to have a large proportion of teachers who have secondary subject-matter certification (Epstein & Mac Iver, 1989). Teachers who are secondary-certified may feel poorly prepared to serve as teacher advisors; most of their training will have been focused on helping them become subject-matter experts and excellent instructors in their areas of specialization. Typically, they will have received less training than

elementary-certified teachers in understanding and responding to students' non-academic problems, interests, and concerns.

To test the hypothesis that the lower use of supportive group advisory activities in junior high schools is due to the presence of professional guidance counselors and secondary-certified teachers, the regression analysis in the first column of Table 1 was re-done after adding "presence of guidance counselor" and "percentage of secondary-certified teachers" variables as predictors. The hypothesis was not supported; the differences in use of supportive activities between junior high or middle-high schools and middle, 7-8, and K-8 schools did not lessen even after controlling for these two variables. On the other hand, K-12 schools were no longer significantly different from junior high or middle-high combination schools in use of supportive activities.

Nevertheless, schools with guidance counselors were less likely to use supportive group advisory activities ( $\beta = -.07$, $p = .03$). Similarly, the negative effect of having secondary-certified teachers on use of supportive group advisory activities was nearly significant ( $\beta = -.06$, $p = .06$).

The finding that 7-9 junior high, 7-12 middle-high, and now K-12 schools use supportive group advisory activities less (even after taking account of guidance counselor and certification effects) suggests that the inclusion of one or more of the high school grades in a school may make it less likely that the school will establish a strong group advisory program for middle graders. Carnegie Unit requirements concerning course offerings (which begin in 9th grade) may limit the number of periods available for group advisory activities in the high school years. Although junior high or middle-high schools could offer frequent group advisory activities to their 7th and 8th graders (even if they can't offer them to their 9th graders), many schools choose not to differentiate their program in this way.



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There were regional differences in the use of supportive group advisory activities. The -.10 coefficient for the Midwest in the first column of Table 1 indicates that such activities occurred significantly less frequently in the Midwest than in the Northeast. In contrast, the West and the South did not significantly differ from the Northeast in use of these activities. Supportive group advisory activities were used less in the Midwest than in any other region.

Finally, the frequency of supportive group advisory activities increases as the percentage of black students in the school increases, as the percentage of families below the poverty line increases, and as the population of the schools' SMSA increases. That is, schools with poor, predominantly black student populations in big cities are more likely than others to establish group advisory periods that frequently provide social and emotional support to students.

Next, we examined the consequences of providing supportive activities during homeroom or advisory periods. In schools where these activities seldom occur, are principals more likely to report that the school is not meeting students' needs for guidance, advice, and counselling? Or are they just as likely to report that students' needs are being met?

Principals rated the overall quality of their guidance and advisory program (Appendix, Variable XV) on a scale ranging from a high of 4 (signifying an excellent guidance program, in which present practices meet students' needs exactly) to a low of 1 (signifying a weak guidance program). The .16 coefficient in the second column (last row) of Table 1 indicates that principals were significantly more likely to rate their guidance program as strong if many supportive activities were used.

The grade organization effects in the second column show that principals in K-8 and K-12 schools rated their overall guidance program as significantly weaker than did principals in middle schools. Finally, schools serving a high percentage of professional/managerial families rated their guidance programs as being stronger than did principals in other schools.

We asked principals to estimate the percent of their current 7th graders who probably would not graduate from high school. One possible outcome of a strong homeroom/advisory program would be to reduce a schools' dropout rate below the rate one would otherwise predict based on the schools' grade organization, location, and type of student population. The final two analyses in Columns 3 and 4 of Table 1 indicate that principals in schools with more supportive homeroom/advisory activities do, indeed, report a significantly lower expected dropout rate for both boys and girls. These analyses also indicate that the expected dropout rate is higher in 6-8 middle schools than in K-8, K-12, and 7-12 combination schools, and is higher in the West and South than in the Northeast. Not surprisingly, principals expect more students to drop out if their school is located in a big city, if their school contains many students living below the poverty line, and if their school serves many low ability children or few children from professional families.

In sum, even after family and student background variables, region, and grade organization are statistically controlled, principals in schools with well-implemented group advisory programs report that they have stronger overall guidance services and lower expected dropout rates.

## Interdisciplinary Teams

Many proponents of the middle school philosophy view the establishment of interdisciplinary teams of teachers as the keystone of education in the middle grades. They hypothesize that interdisciplinary teams will eliminate the isolation that many teachers feel by providing a working group of colleagues to conduct activities and discuss and solve mutual problems; that instruction will be more effective in schools that use interdisciplinary teaming because of increased integration and coordination across subjects; and that teachers on a team sharing the same group of students will be able to respond more quickly, personally, and consistently to the needs of individual students.

Our data indicate that about 42% of early adolescent students receive instruction from interdisciplinary teams of teachers sometime between grades 5 and 9. An interdisciplinary team most often consists of four teachers -- a social studies teacher, an English teacher, a math teacher, and a science teacher -- who share a group of 100-125 students (Epstein & Mac Iver, 1989).

*Measuring a School's Commitment to Interdisciplinary Teaming*. Schools vary in their level of commitment to interdisciplinary teaming. To measure this variation, we created a response variable ranging from 0 to 3 (see Appendix, Variable II). Schools were assigned a score of 3 only if they used interdisciplinary teaming in 7th or 8th grade *and* provided teachers with two or more hours of common planning time each week, *and* teachers devoted more than a little time during this planning period to team activities such as coordinating content, revising schedules, regrouping students, diagnosing individual students needs, planning special events, and conducting parent conferences. Schools that used teaming and gave teachers at least two hours of common planning time each week but in which the teachers devoted little or none of this planning period to team coordination were assigned a score of 2. Schools that used interdisciplinary teaming but did not provide two or more hours of common planning time weekly were assigned a score of 1. Schools that did not use interdisciplinary teaming at all in grades 7 or 8 were assigned a score of 0.

*Problems associated with implementing interdisciplinary teaming*. Interdisciplinary teaming may produce problems or benefits. Principals may be reluctant to commit their schools to interdisciplinary teaming until they are convinced that the benefits of teaming will outweigh the special problems associated with teaming. For example, in a school where there is hostility between departments or many personality conflicts among teachers, the principal may fear that interdisciplinary teaming will simply exacerbate existing tensions. Further, if teachers are not sufficiently trained in the team approach and not well-versed in using common interdisciplinary


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planning time to make instruction more effective (e.g., by coordinating content and discipline, diagnosing and arranging help for individual students, regrouping to take account of students' strengths and weaknesses, and altering schedules for classes that need more time), then the principal may feel that a commitment to interdisciplinary teaming is unwarranted.

Our survey listed problems and benefits that might occur as a result of organizing interdisciplinary teams of teachers (See Appendix, Variable XX). We created a composite variable based on these items. Each item in the composite was scored so that a high score indicated the presence of a problem or the absence of a benefit. Thus, high scores on the composite indicate schools where interdisciplinary teaming is producing (or, once initiated, would allegedly produce) frequent problems and infrequent benefits. Schools that score high on this composite would be unlikely to establish a commitment to interdisciplinary teaming.

Further, the effect of making a commitment to interdisciplinary teaming on the strength of a schools' overall middle grades program probably depends on the severity of problems that are associated with using interdisciplinary teaming at that school. In a school where the problems associated with teaming are many, a forced commitment to teaming (e.g., in response to a mandate from the central office) may actually weaken the school's overall middle grades program, at least until the problems are solved. In contrast, in a school where there are few problems involved in using interdisciplinary teams of teachers, a commitment to teaming may significantly strengthen the school's middle grades program. Thus, in the analyses that follow, special attention is paid to how teaming-related problems might moderate the effects of a school's commitment to interdisciplinary teaming on the strength of its overall program.

*A school's commitment to departments*. Some schools may choose to establish and emphasize departments instead of, or in addition to, interdisciplinary teams. These schools may organize their faculty by subject area, appoint department heads, give common planning periods to members of departments, and use disciplinary (single subject) team teaching. A disciplinary

organization and emphasis may be particularly welcomed by those teachers who prefer to identify with a department rather than an interdisciplinary team and find it easier to collaborate with and learn from teachers who are in the same discipline. A school's commitment to departments was measured by a composite variable ranging from 0 to 3 (Appendix, Variable III). A maximum score of 3 indicates that the school has departments organized with their own chairpersons or heads, has a common planning period for members of departments, and uses "single subject" team teaching in each of the middle grades.

The next analyses explore the relationships among the antecedents and consequences of a school's commitment to interdisciplinary teaming.

*Antecedents of Interdisciplinary Teaming*

The first column of Table 2 summarizes a regression model that explores the antecedents of a school's level of commitment to interdisciplinary teaming. The standardized coefficients indicating the effects of grade organization show that middle schools display a significantly higher level of commitment to interdisciplinary teaming than do K-8, K-12, and junior high schools. Other grade organizations -- 7-8 schools and middle-high combination schools -- do not differ significantly from middle schools in their commitment to interdisciplinary teaming.

Two types of schools are particularly likely to make a high commitment to interdisciplinary teaming -- schools serving many professional/managerial families (Column 1, Row 11) and schools with many low ability students (Row 12). Urban schools tend to have lower commitment to interdisciplinary teaming than do schools in other areas (Row 13). Interestingly, schools that emphasize departments (with department heads, common planning periods for departments, and single subject team teaching) are *not* significantly less likely than others to make a commitment to interdisciplinary teaming (Column 1, Row 14). This indicates that a departmental emphasis and an interdisciplinary team emphasis coexist in many schools. Finally,

schools that encounter or anticipate frequent problems in implementing interdisciplinary teaming are much less likely than others to make a commitment to interdisciplinary teaming (Row 15)

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Insert Table 2 about here.

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*Consequences of Commitments to Interdisciplinary Teams and to Departments*

The second column in Table 2 reports standardized regression coefficients from an equation predicting the strength of each school's overall middle grades program (Appendix, Variable XVII) based on its commitment to interdisciplinary teaming, commitment to departments, and other variables. The significant positive coefficients in Rows 14 and 16 suggest that a school's commitment to departments and its commitment to interdisciplinary teams are both associated with increases in the strength of its overall program.

Two other effects were significant. Principals of middle schools rated their middle grades program to be significantly stronger than did principals of schools containing just one or two of the middle grades (7th-8th or 7th only schools, Row 5). Also, the higher the average ability of students in a school, the stronger the ratings given by the principal to the school's middle grades program (Row 12).

We hypothesized earlier that the impact of making a commitment to interdisciplinary teaming on a school's program would vary, depending on the obstacles to effective teaming faced by the school. To test this hypothesis, we re-estimated the regression model in Column 2 of Table 2 after adding the "Problems in Implementing Interdisciplinary Teaming X Commitment to Interdisciplinary Teaming" interaction ( $\Delta R^2 = .01$, $t\,(1047) = 3.55$, $p = .0004$), described in Table 3. In schools where the obstacles to effective interdisciplinary teaming are high (where teaming-related problems occur often), a commitment to interdisciplinary teaming is counterpro-


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ductive and leads to a weaker program. On the other hand, in schools where few obstacles to teaming exist, a commitment to teaming is predictive of stronger, more excellent programs. If the teachers in a school are well-trained in the team approach, if the teachers use each other as a support system, if personality conflicts are few, and if the school schedule allocates sufficient common planning time and allows flexible scheduling and regrouping, then a commitment to interdisciplinary teaming helps the school to provide a more successful program overall for students in the middle grades.

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Insert Table 3 about here.

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There is no evidence that a commitment to interdisciplinary teaming or a commitment to departments reduces dropout rates. On the contrary, schools committed to interdisciplinary teaming have a higher expected dropout rate than would be predicted based on background and demographic variables (Table 2 , Row 16, Columns 3 & 4). Further, a school's level of commitment to departments is not a significant predictor of expected dropout rate (Row 14).

Why is the relation between commitment to interdisciplinary teaming and principal's reports of probable dropout rate positive? It may be that a school's current expected dropout rate influences the school's openness to making a commitment to interdisciplinary teaming. Schools that have a high dropout rate may make stronger commitments to this and other "promising practices" in the hope of reducing the rate. At the time of the survey, principals in these schools may not yet have known whether using interdisciplinary teams of teachers was reducing the percentage of their students who would leave school before high school graduation.

An alternative explanation is that a deep commitment to interdisciplinary teaming may divert schools from providing sufficient remedial and guidance services, which may be critical in dropout prevention. The data do *not* support this alternative hypothesis; schools with a

commitment to interdisciplinary teaming actually have more extensive remedial programs ($r = .11$, $p < .001$), provide more supportive group advisory activities ($r = .22$, $p < .001$), and have lower "students per guidance counselor" ratios ($r = -.05$, NS). These correlations suggest that our original hypothesis may be correct. That is, schools with high dropout rates may often adopt interdisciplinary teaming and other responsive practices in their attempt to rescue potential dropouts.

**Remedial Instruction Activities**

All schools have some students who fall behind or learn more slowly than others. We asked principals to report the remedial activities offered to these students (Appendix, Variable IV). The most common remedial activities were pull-out programs in reading or English (61% of the 7th graders attended a school offering such a program), after- or before-school coaching classes (58%), summer school (52%), and pull-out programs in math (51%). Schools were less likely to offer students an extra subject period in lieu of an elective or exploratory course (28%), and rarely offered remediation through Saturday classes (3%). Ironically, except for summer school, each of the special remedial activities on our list was most common in schools where the average academic ability of students is *considerably above* the national norm (See Table 4).

The first column in Table 5 reports standardized coefficients from a regression model that attempted to predict the number of remedial programs offered in each school. The adjusted $R^2$ of .03 for this model indicates that very little of the between-school variance in the extensiveness of remedial programs can be explained based on grade organization, region, and family and student background variables. Only three effects were significant. The number of remedial programs offered by a school is positively related to the average ability level of the school's students and the urbanicity of the area surrounding the school (Rows 12 & 13). Further, middle schools offer significantly more remedial programs than do middle-high combination schools (Row 3).

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Insert Tables 4 & 5 about here.

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Ideally, an extensive remedial instruction program should make it possible for a school to lower its retention rate. Our data suggest that, instead of serving as an alternative to retention, an extensive remedial program tends to go along with high rates of retention (See Table 5, Column 2, Row 16). Just as we saw with other indicators of responsive programs, schools with severe problems (e.g., a high number of flunking students) put in place many practices (e.g., extensive remedial programs) that they hope will alleviate the problems eventually. But, at the time of the survey, principals saw no evidence that extensive remedial programs were making it possible for more students to succeed.

There are several other significant predictors of a school's retention rate in the middle grades. The grade organization effects (Column 2, Rows 1-5) indicate that the retention rate in middle schools is significantly lower than that found in middle-high, junior high, and 7-8 schools, but is significantly higher than that found in K-8 schools. Retention rates are highest in the South and lowest in the West (Rows 6-8). Not surprisingly, retention rates are higher in schools that serve many minority students, families living in poverty, and low ability students (Rows 9, 10, & 12). Finally, a school's policies concerning the number of courses a student can fail and still be promoted also affect retention rates (e.g., schools that allow students to be promoted even if they fail 3 or more courses have lower retention rates than do other schools).

The sheer number of remedial programs offered by a school does not affect principals' predictions concerning the percent of their current 7th graders who will not graduate from high school (Columns 3 & 4, Row 16). There is, however, a significant positive effect of a school's average retention rate on estimated dropout rates (Row 17). This finding is conguent with evidence from previous studies which suggests that holding students back " *increases* rather than decreases their risk of dropping out of school" (Grissom & Shepard, 1988, p. 34).



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Of the remedial practices included on the survey instrument, the practice of providing students who need extra help with an extra subject period during the school day (e.g., instead of an elective or exploratory course) seems especially promising. Remedial activities that occur outside of the regular school day -- after-school or before-school coaching sessions, Saturday classes, or summer school -- are often not well attended by the students who need the most extra help to master basic skills and pass courses. Including the "coaching class" as part of a low achiever's regular school day guarantees that more of the students who need help will actually receive it. Likewise, remedial programs using the "extra subject period" approach may be preferable to "pull-out" programs because students do not miss part of their other academic instruction (e.g., a student is not pulled out of social studies or science to receive extra help in reading or math), and being "pulled out" of class to receive help is a highly visible public event that increases the labeling and stigmatizing of low achievers. In contrast, fewer classmates may know or care that that low achievers are receiving extra academic instruction during "activity period" rather than attending one of the other available activities, electives, or mini-courses.

Regression analyses reveal that principals in schools that use the "extra subject period" approach to remediation do indeed report slightly lower estimated dropout rates for both boys and girls (after controlling for all the variables in Table 5 that are significant predictors of dropout rate). In schools that use this approach, the principal's estimates of the percent of girls who will drop out is 1.4% below the rate that would otherwise be expected ( $\beta = -.06, p = .02$). For boys, use of the "extra subject period" approach is associated with a lessening of the estimated dropout rate by 1.3% ( $\beta = -.05, p = .04$). None of the other remedial practices in the questionnaire are significantly associated with principals' predictions concerning dropout rates.

**Easing the Transition to a Middle Grades School**

There has been considerable concern about the effect of school transitions on early adolescent development (e.g., Blyth, Simmons, & Carlton-Ford, 1983; Eccles & Midgley, 1989;

Eccles, Midgley, & Adler, 1984; Simmons & Blyth, 1987). Our data indicate that more than 88% of the public school students in the U.S. enter a new school as they make the transition to the middle grades (Epstein & Mac Iver, 1989).

We asked principals to describe the activities used with students, parents, and staff in their schools to ease the transition of students to the middle grades (See Appendix, Variable VI). The three most common activities (used by over 40% of the principals) were having elementary school students visit the middle grades school, having middle grades and elementary administrators meet together on articulation and programs, and having middle grades counselors meet with elementary counselors or staff.

Some potentially promising activities were infrequently used, perhaps because they are more difficult to implement. For example, only 20% or fewer of the principals indicated use of the following practices: having elementary school students attend regular classes at the middle grades school, having summer meetings at the middle grades school, and having a buddy program that pairs new students with an older one upon entry to the school (Epstein & Mac Iver, 1989).

Which types of middle grades schools have the most extensive articulation and transition activities in preparing students for entry into their school? For these analyses, the measure of the extensiveness of the activities used by a school is the number of activities each school used at the time of the survey. This analysis excluded schools in which there was no transition, e.g., K-8 and K-12 schools.

Articulation activities were significantly less extensive in middle-high schools than in other schools that begin in the middle grades (See Table 6, Column 1, Row 1). Schools containing a large percentage of students living in poverty have less extensive articulation programs (Row 8). Schools serving a large percentage of professional or managerial families, high ability students, and populous urban areas have more extensive programs (Rows 9-11)

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Insert Table 6 about here.

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There is evidence that an extensive articulation program may be beneficial. The standardized regression coefficient of .23 (in Column 2/Row 12 of Table 6) indicates that principals in schools using numerous and diverse articulation activities are more likely to report that their articulation program is meeting student needs. Further, an extensive articulation program slightly -- but significantly -- increases the likelihood that students will succeed in their first year in the new school. That is, the -.07 in Row 12 of Column 3 indicates that fewer students are retained to repeat the transition grade in schools that have extensive transition programs. Of course, a school's retention policies also influence the percentage of students retained to repeat the transition grade (Rows 13-15). A greater percentage of students are retained in schools where students are typically held back for failing one, two, or three courses, or for excessive absence or lateness, than in schools where students are not held back for these reasons (e.g., schools where students are held back only for failing four or more courses).

### Progress Grades, Effort Grades and Written Comments

Almost all schools (99%) give students letter or number grades on their report cards indicating their academic performance in each subject (Epstein & Mac Iver, 1989). One supposed purpose of these grades is to motivate all students to give their best efforts. In order for grades to serve this function, however, the grading standards must be challenging for all students but impossible for none. Report card systems that use only performance grades to provide students with feedback on their achievement may be unintentionally rigged against slower or other educationally disadvantaged students. Students who begin the year behind grade level in achievement may be unable to obtain a high or even a passing performance grade, even if they


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work very hard. Furthermore, traditional grading systems often do not adequately recognize the progress that disadvantaged students make, because even dramatic progress may still leave them near the bottom of the class in comparative terms or far from the "percent-correct" standard needed for a good performance grade. Most teachers are aware of this problem. When faced with a low achiever who has shown great progress but is still at the bottom of the class, most will give the student a slightly higher performance grade than the one typically given to students performing at that achievement level. Still, most of these students have no realistic shot at earning an "A" or "B."

One obvious solution to the "accessibility problem" of performance grades is to move to a dual evaluation system (Mac Iver, 1989a; Slavin, 1988, pp. 389-393) where students receive official recognition both for doing better than they have done in the past (progress grades in each subject), and for high levels of achievement (performance grades in each subject). Such a system would allow low achievers who are displaying consistent improvement to receive "A's" or "B's" in progress even if their achievement level is still low relative to other students. Such a dual evaluation system may encourage a greater number of students to make the most of their opportunities to learn. Similarly, such a system may cut down on the number of students who lose confidence in their ability to master the subject matter (Mac Iver, 1989b) and thus, over time, reduce the likelihood that students will drop out of school. Presently, only 18% of the public schools containing seventh-graders use progress grades on student report cards.

Effort grades may also be a way to provide students with official recognition of work completed, regardless of their relative rank in class. About one quarter (26%) of the schools give separate effort grades for each subject. However, effort grades may not be as effective as progress grades for motivating slower students. First, it is difficult for teachers to assess student effort apart from student performance, so effort grades often do not differ much from performance grades. Second, when these grades do differ the message delivered may be ineffective --

for example, giving an F student an A in effort tells the student that trying hard doesn't help, and giving an A student an F in effort isn't likely to produce more effort -- the student is already getting an A in performance.

Finally, although they are time-consuming to produce, written comments in each subject provide teachers with another means to recognize students' strengths or improvement, even if the students' absolute levels of achievement are low.

*Antecedents and Consequences of Using Progress Grades, Effort Grades, and Written Comments on Student Report Cards*

Table 7 reports standardized coefficients from regression models exploring the use of progress grades, effort grades, and written comments. Progress grades are used significantly less in junior high schools than in middle schools (Column 1, Row 4). Other grade organizations do not differ significantly from middle schools in use of progress grades. As shown in column 2 of Table 7, K-8 and middle schools are most likely to give effort grades, while middle-high schools and junior high schools are least likely. For some reason, effort grading is more common in the Northeast than in other regions. Also, schools containing many children of professionals and schools in populous urban areas are more likely than others to use effort grades.

Column 3 of Table 7 indicates that few variables are highly significant predictors of a school's use of written comments on student report cards. K-8 schools use written comments most often, junior high and 7-8 schools use written comments least often. Written comments are used slightly more often in Southern schools than in other schools. Schools containing a large percentage of minority students are less likely than other schools to use written comments.

Schools that use effort grades or written comments are more likely than other schools to also use progress grades (Column 1, Rows 16 & 17). This "feast or famine" phenomenon in the use of responsive report card entries reappears in columns 2 and 3. Some schools, in their attempt to

increase responsiveness, may be asking their teachers to make too many different distinctions in their evaluations -- for example, to distinguish effort from both performance *and* progress.

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Insert Table 7 about here.

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Does the use of progress grades, effort grades, or handwritten comments on student report cards strengthen a school's program or reduce a school's dropout rate? Rows 15 and 16 of Column 4 indicate that principals in schools that use progress grades and/or effort grades rate their middle grades program as slightly stronger than do other principals. However, the regression equation summarized in Column 4 leaves the vast majority of the variance in principals' ratings of their middle grades program unexplained (Adjusted $R^2 = .03$). The information given to students on their report cards is not a major determinant of the strength of a middle grades program.

Use of progress grades or written comments on report cards is associated with a significantly lower dropout rate for boys (Column 5) but not for girls (Column 6). Responsive grading practices may benefit boys slightly more than girls because boys tend to receive lower performance grades than girls during early adolescence (Mac Iver, Stipek, & Daniels, 1989). In contrast to progress grades and written comments, use of effort grades does not significantly affect principals' estimates concerning dropout rates.

## Discussion

How much do our data support the idea that middle grades schools will be more successful if they adopt the special student support structures, practices, and services that leading educators in the middle school movement often recommend as being especially responsive to the needs of



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early adolescents? Are there clear payoffs -- measurable benefits to students or to the school program -- if a school establishes group advisory periods and interdisciplinary teams, provides remedial activities, conducts extensive articulation practices, and recognizes student progress or effort officially on report cards?

We found evidence that most of the recommended practices yield measurable but modest benefits. For example, based on our data, a school in which the average frequency of occurrence of nine supportive group advisory activities is "weekly" rather than "a few times per year" is predicted to save 1% of the schools' students from dropping out before they finish high school. A school that provides an extra subject period within the school day to those students who need coaching or remediation is predicted to reduce its dropout rate by almost 1.5%. A school that uses the average number of articulation/transition practices is predicted to raise the percent of students who succeed in their first year at the new school by approximately 1% over the promotion rates observed in otherwise similar schools that provide no special articulation/transition activities. A school that officially rewards improvement by assigning progress grades in addition to performance grades is predicted to prevent around 1.7 % of their boys from eventually dropping out.

These results clearly support the use of responsive practices and may even understate their benefits. The potential benefits of responsive practices may be still greater than the "average benefits" reported here because some of the measures of practices were quite gross, dealing with general aspects or broad distinctions. For example, our measure of the extra-subject period approach to remediation was a simple dichotomy. It distinguished schools using *any variety* of the extra-subject period approach from schools who did not offer extra subject periods during the school day. Schools that provided intensive help during the extra subject period were lumped together with schools that provided little remedial instruction during the extra subject period (e.g., schools in which the period is more like a "study hall" than a "coaching period"). The

benefits of having extra-subject periods of intensive, well-organized, remedial instruction are undoubtedly larger than the "average benefits" of generic extra-subject periods.

Further, the combined benefits of using several responsive practices simultaneously may be larger than the benefits of using any one practice by itself. If the results that we have shown were simply additive, for example, schools using three of these responsive practices would acheive more than a 4% reduction in dropout rates. Also, there are other likely benefits of responsive practices that were not measured at all in this study. For example, the typical cumulative effects of being in a responsive middle grades school for three entire years on young adolescents' motivation to learn, achievement, and engagement and satisfaction with education may be substantial.

In this study (and in any study examining the relations between educational practices and outcomes), some of the observed relations may be spurious. We have controlled for a large number of possible "confounding variables" (average ability of students upon entry, % of professional/managerial families in the school, % of minority students, retention policies, grade span, regional differences in education policies, grade span, % of families below the poverty line, urbanicity), but some important but less obvious variables may have been ignored. Thus our conclusions must be viewed as tentative, rather than as definitive. Still, the results of this study give justifiable encouragement to the many educators who have been calling for and working for more responsive structures and services in the middle grades.

The results of this study suggest, however, that to realize the benefits of a responsive practice, a school must make sure that the practice is implemented properly. A group advisory period will yield few benefits to a school unless the teachers actually use the time to provide frequent social and emotional support activities to the students. Also, schools often encounter problems when they first organize their faculty into interdisciplinary teams (the school's current master schedule may not allow sufficient common planning time for team members, teachers

may have little training in coordinating content across subjects and in developing interdisciplinary units of instruction, or the personalities of teachers assigned to a given team may not mix well). Until these implementation problems are identified and solved, the use of interdisciplinary teams may prove ineffective or even counterproductive.

A departmental organization and emphasis is not usually recommended by the leading educators in the middle school movement. However, our data suggest that a school that decides to emphasize departments and takes the steps necessary to make this commitment work (establishing department heads, common planning periods for departments, and within-department team teaching) may be able to strengthen its program just as much as a school that chooses an interdisciplinary emphasis and takes the steps necessary to make this emphasis work (by removing obstacles to effective teaming, by establishing common planning periods for team members, and by training members how to use team planning effectively). As important, we have seen that an interdisciplinary team organization and a departmental organization are not mutually exclusive.

On the other hand, not all alternative approaches are equally beneficial. On the limited set of outcomes examined in this study, the provision of an extra subject period during the school day was more beneficial than other approaches to remediation (presumably because of higher attendance and lower stigmatization of low achievers when the extra-period approach is used).

Educational researchers concerned with the middle grades are frequently asked, "What is the best grade span for a middle grades school?" Overall, the responsive practices considered in this article are found most consistently in 6-8 middle schools. None of the other grade organizations use responsive practices significantly more than these schools. Still, grade organization is not a *consistent* determinant of responsive middle grades practices. For example, although K-8 and K-12 schools are significantly less likely than 6-8 schools to make a commitment to interdisciplinary teaming, they are just as likely as 6-8 schools to use supportive activities during advisory


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group periods. Overall, 7-9 junior high and 7-12 middle-high combination schools use fewer reponsive practices than other schools. Even these junior high and middle-high schools, however, are as responsive as middle schools on some practices.

One should not forget that our conclusions concerning the antecedents and consequences of responsive practices are based on data from public schools. As noted earlier, our sample did not include any Catholic or other private schools. Some of the effects described here (e.g., less use of interdisciplinary teaming in K-8 schools) may or may not generalize to private schools.

Many states (and many school districts) are attempting to restructure education in the middle grades. For example, 20 states have formed or are forming special task forces to examine the status of education in the middle grades and to make recommendations for improvement (Children's Defense Fund, 1988; also see California State Department of Education, 1987, and Maryland State Department of Education, in press). Studies such as this one -- that explore the natural variation in middle grades practices in the "real world" and that test the effects of these variations on a school's level of success -- are essential for evaluating and selecting alternative approaches to middle grades improvement. It is hoped that such studies will help guide educators toward more effective middle grades organization, instruction, and curriculum.

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*Table 1*

*Summary of Multiple Regression Analyses Exploring the Antecedents and Consequences of Using Supportive Activities During Homeroom/Advisory Period*

| *Effect* | *Use of Supportive Activities* | *Strength of Guidance Programs* | *# of Boys Who Probably Will Not Graduate from H.S.* | *# of Girls Who Probably Will Not Graduate from H.S.* |
|---|---|---|---|---|
| Grade Organization: | | | | |
| K-8 vs. Middle School | +.02 | -.18** | -.08** | -.08** |
| K-12 vs. Middle School | +.02 | -.10** | -.07** | -.06* |
| Middle-High vs. Middle School | -.05 | +.04 | -.11** | -.09** |
| Junior High vs. Middle School | -.12** | +.01 | -.04 | -.02 |
| 7th-8th vs. Middle School | .00 | -.02 | -.01 | .01 |
| Region: | | | | |
| West vs. Northeast | -.02 | -.04 | .12** | .12** |
| Midwest vs. Northeast | -.10** | -.02 | .00 | .01 |
| South vs. Northeast | +.02 | -.02 | .08* | .07 |
| % Black Students | +.08* | -.03 | .08** | .06 |
| % Families Below Poverty Line | +.08* | -.06 | .13** | .14** |
| % Professional Families | +.04 | +.08* | -.13** | -.11** |
| Avg Ability of Students upon Entry | .00 | +.05 | -.30** | -.30** |
| Population of SMSA | +.07* | -.04 | .07** | .10** |
| Use of Supportive Activities | -- | -.16** | -.06* | -.05* |
| Adj $R^2$ | .05 | .08 | .31 | .28 |

Note: Table entries are standardized regression coefficients. * $p < .05$. ** $p < .01$.

*Table 2*

*Summary of Regression Analyses Exploring the Antecedents and Consequences of a School's Level of Commitment to Interdisciplinary Teaming*

| *Effect* | *Level of Commitment to Interdisciplinary Teaming* | *Strength of Middle Grades Program* | *% of Boys Who Will Probably Not Graduate From H.S.* | *% of Girls Who Will Probably Not Graduate From H.S.* |
|---|---|---|---|---|
| Grade Organization: | | | | |
| 1) K-8 vs. Middle School | -.07* | .02 | -.08** | -.08** |
| 2) K-12 vs. Middle School | -.06* | .05 | -.08** | -.03 |
| 3) Middle-High vs. Middle School | -.04 | -.02 | -.08** | -.07** |
| 4) Junior High vs. Middle School | -.12** | -.06 | -.02 | .00 |
| 5) 7th-8th vs. Middle School | .00 | -.08* | .00 | .04 |
| Region: | | | | |
| 6) West vs. Northeast | -.06 | .03 | .10** | .09* |
| 7) Midwest vs. Northeast | -.02 | .00 | .00 | .01 |
| 8) South vs. Northeast | -.06 | .07 | .08* | .05 |
| 9) % Minority Students | -.01 | .01 | .10* | .10* |
| 10) % Families Below Poverty Line | -.03 | -.02 | .10** | .11** |
| 11) % Professional Families | .10** | .03 | -.14** | -.13** |
| 12) Average Ability of Students Upon Entry | -.12** | .13** | -.29** | -.28** |
| 13) Population of SMSA | -.07* | .02 | .07* | .06* |
| 14) Commitment to Departments | -.04 | .15** | -.02 | .00 |
| 15) Problems in Implementing Interdisciplin. Teams | -.34** | .03 | .03 | .02 |
| 16) Commitment to Interdisciplinary Teams | --- | .13** | .08** | .08** |
| Adj. $R^2$ | .19 | .06 | .32 | .28 |

Note: Cell entries are standardized regression coefficients; * $p < .05$ ** $p < .01$.

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Table 3

Predicted Strength of Middle Grades Program in Schools that Vary in Level of Commitment to Interdisciplinary Teaming and in Frequency of Problems in Implementing Interdisciplinary Teams

| Level of Commitment to Interdisciplinary Teaming | Frequency of Problems | | |
|---|---|---|---|
| | Seldom | Sometimes | Often |
| 0 (No Commitment)[a] | 2.72 | 2.90 | 3.08 |
| 1 | 2.89 | 2.90 | 2.91 |
| 2 | 3.06 | 2.90 | 2.74 |
| 3 (High Commitment) | 3.23 | 2.90 | 2.57 |

Note. Higher scores denote stronger middle grades programs. (1 = a "Weak" program, 2 = a "Fair" program, 3 = a "Good" program, and 4 = an "Excellent" program.)

[a]For schools with *no commitment* to interdisciplinary teaming, the frequency of problems rating indicates principals' judgments of how often the listed problems "WOULD OCCUR on interdisciplinary teams in your school."

*Table 4*

***Percent of 7th-Graders Attending Schools that Offer Various Remedial Programs***

| Remedial Programs | Average Academic Ability of Students upon Entry: Considerably Below the National Norm (n = 58) | Near the National Norm (n = 1068) | Considerably Above the National Norm (n = 148) | $\chi^2$ |
|---|---|---|---|---|
| Extra work or homework by classroom teacher | 42% | 47% | 50% | 1.41 |
| Pull-out program in reading or English | 60% | 62% | 72% | 5.37x |
| Pull-out program in math | 50% | 53% | 56% | .92 |
| Extra subject period instead of elective or exploratory course | 24% | 28% | 34% | 2.68 |
| After-school or before-school coaching sessions | 69% | 57% | 73% | 15.44** |
| Saturday classes | 0% | 3% | 4% | 1.83 |
| Summer school | 68% | 53% | 52% | 4.69x |

x $p < .10$ *$p < .05$ **$p < .01$

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*Table 5*

***Standardized Regression Coefficients from Analyses Exploring the Antecedents and Consequences of the Number of Remedial Programs Offered***

| ***Effect*** | ***Number of Remedial Programs*** | ***Middle Grades Retention Rate*** | ***% of Boys Who Will Probably Not Graduate From High School*** | ***% of Girls Who Will Probably Not Graduate From High School*** |
|---|---|---|---|---|
| Grade Organization: | | | | |
| 1) K-8 vs. Middle School | -.05 | -.06* | -.06* | -.06* |
| 2) K-12 vs. Middle School | -.04 | .01 | -.06* | -.05 |
| 3) Middle-High vs. Middle School | -.06* | .08* | -.11** | -.09** |
| 4) Junior High vs. Middle School | -.04 | .06* | -.03 | -.02 |
| 5) 7th-8th vs. Middle School | -.06 | .07* | -.02 | .01 |
| Region: | | | | |
| 6) West | .04 | -.08* | .10** | .10** |
| 7) Midwest | -.04 | .00 | .01 | .02 |
| 8) South | .04 | .11* | .06 | .04 |
| 9) % Minority students | .06 | .12** | .11** | .10** |
| 10) % Families below poverty line | .00 | .10* | .08* | .09* |
| 11) % Professional families | .06 | .02 | -.13** | -.11** |
| 12) Avg. ability of students upon entry | .08* | -.17** | -.28** | -.28** |
| 13) Population of SMSA | .10** | -.03 | .06* | .09** |
| Number of courses a student can fail without being retained: | | | | |
| 14) "0" vs. "3 or more" | -- | .09** | -- | -- |
| 15) "1 or 2" vs. "3 or more" | -- | .11** | -- | -- |
| 16) Number of remedial programs | -- | .08** | -.02 | -.02 |
| 17) School's average retention rate across the middle grades | -- | -- | .09** | .08** |
| Adj $R^2$ | .03 | .17 | .31 | .29 |

Note: Cell entries are standardized regression coefficients; * $p < .05$ ** $p < .01$

*Table 6*

***Summary of Regression Analyses Exploring the Antecedents and Consequences of the Extensiveness of Articulation/Transition Activities for Students Making the Transition to the Middle Grades***

| *Effect* | *Extensiveness of Articulation/ Transition Activities* | *Strength of Articulation/ Transition Program* | *% of Students Retained to Repeat the Transition Grade* |
|---|---|---|---|
| Grade Organization: | | | |
| 1) Middle-High vs. Middle School | -.10** | .07* | .11** |
| 2) Junior High vs. Middle School | -.01 | .00 | .08** |
| 3) 7th-8th vs. Middle School | -.02 | .04 | .09** |
| Region: | | | |
| 4) West vs. Northeast | .06 | -.11** | -.08* |
| 5) Midwest vs. Northeast | -.05 | -.04 | -.03 |
| 6) South vs. Northeast | -.01 | .05 | .12** |
| 7) % Minority Students | .06 | .00 | .19** |
| 8) % Families Below Poverty Line | -.17** | -.11** | .12** |
| 9) % Professional Families | .13** | -.01 | .06 |
| 10) Avg. Ability of Students Upon Entry | .12** | .11** | -.18** |
| 11) Population of SMSA | .10** | .00 | -.02 |
| 12) Extensiveness of Art./Trans. Activities | --- | .23** | -.07* |
| Major Reasons Students are Retained: | | | |
| 13) Failing One Course | --- | --- | .08** |
| 14) Failing 2 or 3 Courses | --- | --- | .10** |
| 15) Excessive Absence or Lateness | --- | --- | .09** |
| Adj. $R^2$ | .13 | .11 | .26 |

Note: Cell entries are standardized regression coefficients: * $p < .05$ ** $p < .01$

Table 7

*Summary of Regression Analyses Exploring the Antecedents and Consequences of Using Progress Grades, Effort Grades, and Written Comments on Student Report Cards*

| Effect | Use of Progress Grades | Use of Effort Grades | Use of Written Comments | Strength of Middle Grades Program | % of Boys Who Will Probably Not Graduate From H.S. | % of Gir Who Wil Probabl Not Gradu From H. |
|---|---|---|---|---|---|---|
| Grade Organization: | | | | | | |
| 1) K-8 vs. Middle School | .00 | .04 | .08* | -.03 | -.06* | -.05x |
| 2) K-12 vs. Middle School | .04 | -.05x | .01 | .03 | -.05* | -.05x |
| 3) Middle-High vs. Middle School | -.00 | -.11** | -.02 | -.04 | -.11** | -.09* |
| 4) Junior High vs. Middle School | -.08** | -.07* | -.07* | -.05x | -.05x | -.03 |
| 5) 7th-8th vs. Middle School | -.03 | -.01 | -.07* | -.05x | -.02 | .01 |
| Region: | | | | | | |
| 6) West vs. Northeast | -.04 | -.13** | .00 | .04 | .10** | .11* |
| 7) Midwest vs. Northeast | -.06x | -.10** | -.01 | .01 | .01 | .02 |
| 8) South vs. Northeast | .01 | -.30** | .08* | .10* | .08* | .06 |
| 9) % Minority Students | .00 | .02 | -.08* | .02 | .10** | .08 |
| 10) % Families Below Poverty Line | .04 | .02 | .06 | -.04 | .09* | .09* |
| 11) % Professional Families | -.02 | .07* | -.06 | .05 | -.13** | -.12* |
| 12) Average Ability of Students Upon Entry | .00 | -.06 | .05 | .10** | -.29** | -.29* |
| 13) Population of SMSA | -.05 | .06* | .02 | .04 | .05x | .09* |
| 14) Schools Avg. Middle Grades Retention Rate | --- | --- | --- | --- | .08** | .06* |
| 15) Use of Progress Grades | --- | .24** | .12** | .06x | -.06* | -.0 |
| 16) Use of Effort Grades | .26** | --- | .10** | .06* | .02 | .0 |
| 17) Use of Written Comments | .11** | .09** | --- | .04 | -.05* | -.0 |
| Adj. $R^2$ | .10 | .15 | .06 | .03 | .32 | .2 |

Note: Cell entries are standardized regression coefficients; x $p < .10$ * $p < .05$ ** $p < .01$.





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*APPENDIX*

VARIABLES USED IN THE REGRESSION ANALYSES

**Practices, Programs, and Policies Used by the School in the Middle Grades**

**I. Use of Supportive Activities During Group Advisory Period**

Each school was assigned a score representing the principal's mean response to the following set of items:

**How frequently do the following activities occur during a HOMEROOM or GROUP ADVISORY period in your school?**

e) Meet with individual students about problems.
f) Give career information and guidance.
g) Discuss academic problems or issues.
h) Discuss personal or family problems.
i) Discuss social relationships and peer groups.
j) Discuss health issues, e.g. drug use prevention, family planning, etc.
k) Discuss moral or ethical issues and values.
l) Discuss intergroup relations and multi-cultural issues.
m) Develop student self confidence and leadership.

The response scale for each item was: *Daily (5), Weekly (4), Monthly (3), A Few Per Year (2), and Never (1).*

**II. Level of Commitment to Interdisciplinary Teaming**

A school's level of commitment to teaming was determined based on their responses to 3 questions:

**Q-1 Does your school use INTERDISCIPLINARY Team Teaching in either grade 7 or 8?** (An arrangement in which 2 or more teachers of DIFFERENT SUBJECTS share the same group of students and/or coordinate their instructional programs across subjects.)

**Q-2 How much COMMON planning time is OFFICIALLY SCHEDULED EACH WEEK for the interdisciplinary team?**

*No official common planning time (1), Less than 30 minutes a week (2), Between one-half and 1 hour per week (3), Between 1 and 2 hours per week (4), Between 2 and 3 hours per week (5), More than 3 hours per week (6).*

**Q-3 In a typical planning period for an interdisciplinary team, about how much time is spent on the following activities? Circle one choice for each activity that comes closest to your estimate of the work your teachers do during team planning meetings.**

b) Coordinate Content. Teachers decide common themes and related topics for instruction.
c) Revise Schedules. Teachers arrange or alter schedules for classes that need more time.
d) Regroup Students. Teachers arrange small or large groups of students to match lessons to abilities.
e) Diagnose Individual Students. Teachers discuss problems of specific students and arrange help.
f) Plan Special Events. Teachers arrange assemblies, trips, or other team activities.
g) Conduct Conferences With Parents. Teachers meet as a team with individual parents to solve problems, provide assistance.


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The response scale was:

*How Much Time Per Planning Period?*

*None  Little  Less than half  About half  More than half*

**Level of Commitment** was coded as follows:

A school was assigned a *0* -- if the answer to **Q-1** was *No*.

A school was assigned a *1* -- if the answer to **Q-1** was *Yes* but the answer to **Q-2** was *Between 1 and 2 hours a week* or less.

A school was assigned a *2* -- if the answer to **Q-1** was *Yes* AND the answer to **Q-2** was *Between 2 and 3 hours a week* or more, but the average time spent on the activities listed in **Q-3** was *None* or *Little*.

A school was assigned a *3* (the highest possible level of commitment) -- if the answer to **Q-1** was *Yes* AND the answer to **Q-2** was *Between 2 and 3 hours a week* or more AND the average time spent on the activities listed in question **Q-3** was more than *Little*.

## III. Level of Commitment to Departments

A school's level of commitment to a disciplinary organization and emphasis was determined based on the principal's responses to 3 questions:

**Is this practice part of your middle grades program now?**

*a) Departments organized with their own chairpersons or heads*
*b) Common planning period for members of departments*

**Does your school use DEPARTMENT (SINGLE SUBJECT) Team Teaching? Teachers in the SAME DEPARTMENT plan and teach together creating small group and large group activities by combining classes or regrouping students.**

*Circle all grades in which you use DEPARTMENT teams:  5  6  7  8  9*

The "Commitment to Departments" composite variable was equal to the number of yes responses on items "a) & b)" above, plus the proportion of grades in which department teams were used (maximum composite score = 3, minimum = 0).

## IV. Extensiveness of Remedial Instruction Activities

**All schools have some students who fall behind or learn more slowly than other students. Does your school offer any of the following remedial activities for these students? (Circle all that apply.)**

No special programs, it is up to students to stay on grade level . . . 1
Extra work or homework by classroom teacher . . . . . 2
Pull-out program in reading or English . . . . . 3
Pull-out program in math . . . . . 4
Extra subject period instead of elective or exploratory course . . . . 5
After-school or before-school classes or coaching sessions . . . . . 6
Saturday classes . . . . . 7
Summer school . . . . . 8
Other(describe) . . . . . 9

**Note.** The extensiveness of a school's remedial instruction program was measured by counting the number of different programs offered by the school. Practices #1 or #2 ("No special programs" or "extra work or homework") were not included in this count.

## V. Retention Policies/Major Reasons Students are Retained

**What are the major reasons most students are retained to repeat a grade in your school?** *(Circle all that apply as major reasons that students repeat the middle grades.)*

Failing one course ..... 1
Failing two or three courses ..... 2
Failing more than three courses ..... 3
Excessive absence or lateness ..... 4
Failing achievement or proficiency tests .... 5
Other(describe) ..... 6

## VI. Organization of the Transition from the Elementary to the Middle Grades

**How do you organize the transition from the ELEMENTARY to the MIDDLE grades?** *(Circle the numbers to the right of ALL of your present practices.)*

No transition -- middle grades continue in K-8 program. . . . . 1
No special activities until students arrive in the fall. . . . . 2
Middle grades students present information at elementary school. . . . . 3
Elementary school students visit middle grades school for assembly. . . . . 4
Elementary school students attend regular classes at middle grades school. . 5
Parents visit middle grades school while children are still in elementary school. . . . . 6
Parents visit middle grades school for orientation in the fall after children have entered. . . . . 7
Summer meetings at the middle grades school. . . . . 8
Buddy or big brother/sister program pairs new student with older one on entry. . . . . 9
Middle grades and elementary teachers meet together about courses and requirements. . . . . 10
Middle grades and elementary administrators meet together on articulation and programs. . . . . 11
Middle grades counselors meet with elementary school counselors or staff . . 12
Other(describe). . . . . 13

## VII. Report Card Entries

**What kinds of information are given on student report cards?** *(Circle all that apply.)*

LETTER or NUMBER grades for academic performance in each subject (A, B, C, D or 80, 85, 90, etc.) ..... 1

CONDUCT grade in each subject ..... 2

Grade in each subject for individual PROGRESS or growth (separate from performance grade) ..... 3

Grade in each subject for EFFORT (separate from performance grade) .... 4

WRITTEN COMMENTS on individual strengths and weaknesses in each subject ..... 5

COMPUTER-generated COMMENTS on student strengths and weaknesses in each subject ..... 6

Other (describe) ..... 7

## Characteristics of the School

### VIII. Grade Organization

Schools were classified into 6 categories:

**K-8** (K-8 schools and all other schools that begin in the elementary grades and end in the middle grades.)
**K-12** (K-12 schools and all other schools that begin before 5th grade and end at 12th grade.)
**7-8** (mainly 7-8 schools, but also "7th only" schools)
**Junior High** (mainly 7-9 schools, but also 6-9 and 5-9 schools.)
**Middle-High** (mainly 7-12 schools, but also 6-12 and 5-12 schools.)
**Middle Schools** (mainly 6-8 schools, but also 5-8, 5-7, and 6-7.)

This categorization was represented in the analyses by 5 dummy variables; middle schools served as the control category (the category coded "0" on each dummy variable).

### IX. Region (as defined by the U. S. Bureau of Census)

Schools were categorized by region:

**West**
**Midwest**
**South**
**Northeast**

This categorization was represented in the analyses by three dummy variables; the Northeast served as the control category.

### X. Population of SMSA/Urbanicity

The population of the urbanized area of which the school is a part (in 100s). This includes the number of people living in the entire densely settled area around a city (e.g, people living in nearby suburbs or outlying cities and counties.) Schools in locations that are not in (nor adjacent to) an urbanized area are assigned a 0 on this variable.

## Characteristics of the School's Students

### XI. % Minority Students

**Approximately what percentage of your present students are members of the following racial or ethnic groups?**

*a) Black/Afro-American* ..... _____%
*b) Hispanic-American* ..... _____%
*c) Asian-American* ..... _____%
*d) American Indian* ..... _____%

### XII. % Families Below Poverty Line

The Orshansky Percentile for the school.

### XIII. % Professional Families

**Approximately what percentage of the students currently enrolled in you school are from families in the following categories?**

a) Professional and managerial personnel . . . _____%

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**XIV. Average Ability of Students upon Entry**

**How would you rate the average academic ability of students when they ENTER this school?**

*Considerably above the national norm (5), Somewhat above the national norm (4), At the national norm (3), Somewhat below the national norm (2), Considerably below the national norm (1).*

**Outcomes for the School and Its Students**

**XV. Strength of the School's Guidance Programs**

**How well do your PRESENT practices match your IDEAL program for guidance, advice, and counselling of students in the middle grades?**

*EXCELLENT -- present practices fit students' needs exactly (4), GOOD -- basic practices are in place, minor changes needed (3), FAIR -- need to improve or add several practices (2), WEAK -- need to design new practices, major changes needed (1)*

**XVI. Strength of the School's Transition/Articulation Program**

**How well do your present practices match your IDEAL program for students' smooth transitions to and from the middle grades?** *Circle one choice.*

*EXCELLENT -- present practices fit students' needs exactly (4), GOOD -- basic practices are in place, minor changes needed (3), FAIR -- need to improve or add several practices (2), WEAK -- need to design new practices and major changes (1)*

**XVII. Strength of the School's Overall Middle Grades Program**

**How well do your present practices match your IDEAL of a successful program for students in the middle grades?**

*EXCELLENT -- present practices fit students' needs exactly -- exemplary program (4), GOOD -- basic practices are in place, minor changes needed -- solid program (3), FAIR -- need to improve or add some practices -- developing program (2), WEAK -- need to design new practices and major revisions -- changing program (1)*

**XVIII. % of Boys and % of Girls Who Probably Will Not Graduate from High School.**

**Based on your experience, past records, or best guesses, please estimate the percent of your present 7th Grade BOYS and GIRLS who will PROBABLY NOT graduate from high school.**

a) percent of present 7th grade boys who will probably NOT graduate from high school ... _____%
b) percent of present 7th grade girls who will probably NOT graduate from high school ... _____%

## XIX. Retention Rates in the Middle Grades

**At the end of last school year (after summer school), about how many students were promoted to the next grade and how many were retained to repeat the same grade this year?** *(Give approximate numbers)*

| For 1987 School Year After Summer School... | NUMBER OF STUDENTS... | |
|---|---|---|
| a) From Grade 5 ..... | _____promoted | _____retained |
| a) From Grade 6 ..... | _____promoted | _____retained |
| a) From Grade 7 ..... | _____promoted | _____retained |
| a) From Grade 8 ..... | _____promoted | _____retained |
| a) From Grade 9 ..... | _____promoted | _____retained |

## XX. Problems Experienced in Implementing Interdisciplinary Teaming

**There are potential benefits and problems in using interdisciplinary teams in the middle grades. How often do you think the following occur as a result of interdisciplinary teams in your school? If you DO NOT use teams now, what is your judgment about how often these WOULD OCCUR on interdisciplinary teams in your school.**

Personalities of the teachers on teams do not mix well and reduce effectiveness (5 = Always, 1 = Never)

Not enough common planning time is allocated for the team to really work together (5 = Always, 1 = Never)

Students identify with the team, build team spirit, and improve school work and attitudes (5 = Never, 1 = Always)

The school schedule prevents flexibility in regrouping students or varying time for different subjects (5 = Always, 1 = Never)

Teachers are not sufficiently trained in the team approach, so teaching practices do not change much (5 = Always, 1 = Never)

Individual student problems are recognized quickly and solved effectively (5 = Never, 1 = Always)

Teachers find it difficult to relate both to their subject-matter departments and to their interdisciplinary teams (5 = Always, 1 = Never)

Teachers use other team members as sources of social support and understanding (5 = Never, 1 = Always)

Instruction is more effective due to integration and coordination across subjects and courses (5 = Never, 1 = Always)